R. P. Pattern
Since 1996

R.P. FOUNDRY BROCHURE

The Essential Guide

SG Iron Foundry

www.rppattern.com

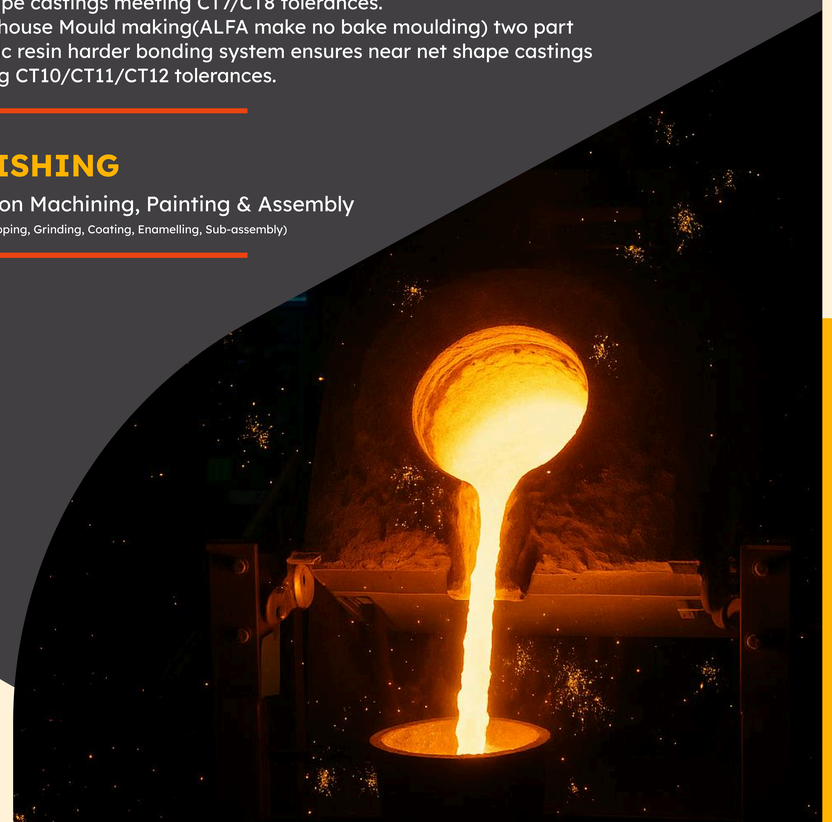
MARKET-LEADING
Casting Solutions

01. CASTING GRADES
SG/Ductile Iron, Austempered
Ductile Iron (ADI) & SiMo

02. CASTING SIZES
Shell Moulding - 0.150kg to 35kg single piece casting
No-Bake Moulding - 20kg to 120kg single piece casting

03. CASTING TOLERANCES & CORE/MOULD MAKING
Our in-house core making (Makewell make shell moulding) ensures near net shape castings meeting CT7/CT8 tolerances.
Our in-house Mould making(ALFA make no bake moulding) two part phenolic resin harder bonding system ensures near net shape castings meeting CT10/CT11/CT12 tolerances.

04. FINISHING
Precision Machining, Painting & Assembly
(Drilling, Tapping, Grinding, Coating, Enamelling, Sub-assembly)



THE COMPANY, AT A GLANCE

We at R.P. Pattern promise to give you the best casting and on-time delivery. All the demands of the customer and maintaining a level of quality are considered. Our team of employees is well qualified and ready to fulfill the "Requirements" of our customers.

In order to manufacture ferrous sand castings in Ductile iron accordance with worldwide standards, R.P. Pattern was founded in 1996 by Mr. Dilip Vekaria. It's only Pattern making unit & doing castings on customers requirements. Now starting the foundry unit this year, having vision to make only Ductile iron (SG iron) Castings.

INFRASTRUCTURE

- **Plant Capacity:** The plant has installed capacity to produce 75 tons/month of SG Iron. With 250KVA power connection.
  - Land Area : 870 square meter
  - Constructed Area : 5900 square feet
  - Administrative Offices: 1000 square feet
- We have installed, Induction furnace of 125kw with 2 crucible 150kg(1 installed & 1 remaining) made by Inductotherm.
- We have installed shell moulding machine of 25kg having 600×600 box size.
- We have installed no-bake moulding machine of 3TPH continuous mixer with sand reclamation system
- Metal testing optical emission spectrometer
- Micro structure with automatic result analysis
- In-process metal performing equipments
- Sand testing facilities for both processes

OUR CORE VALUES

Exceeding expectations
through respect and expertise.

OUR GROUP COMPANIES

R.P.Pattern - Pattern Shop Division

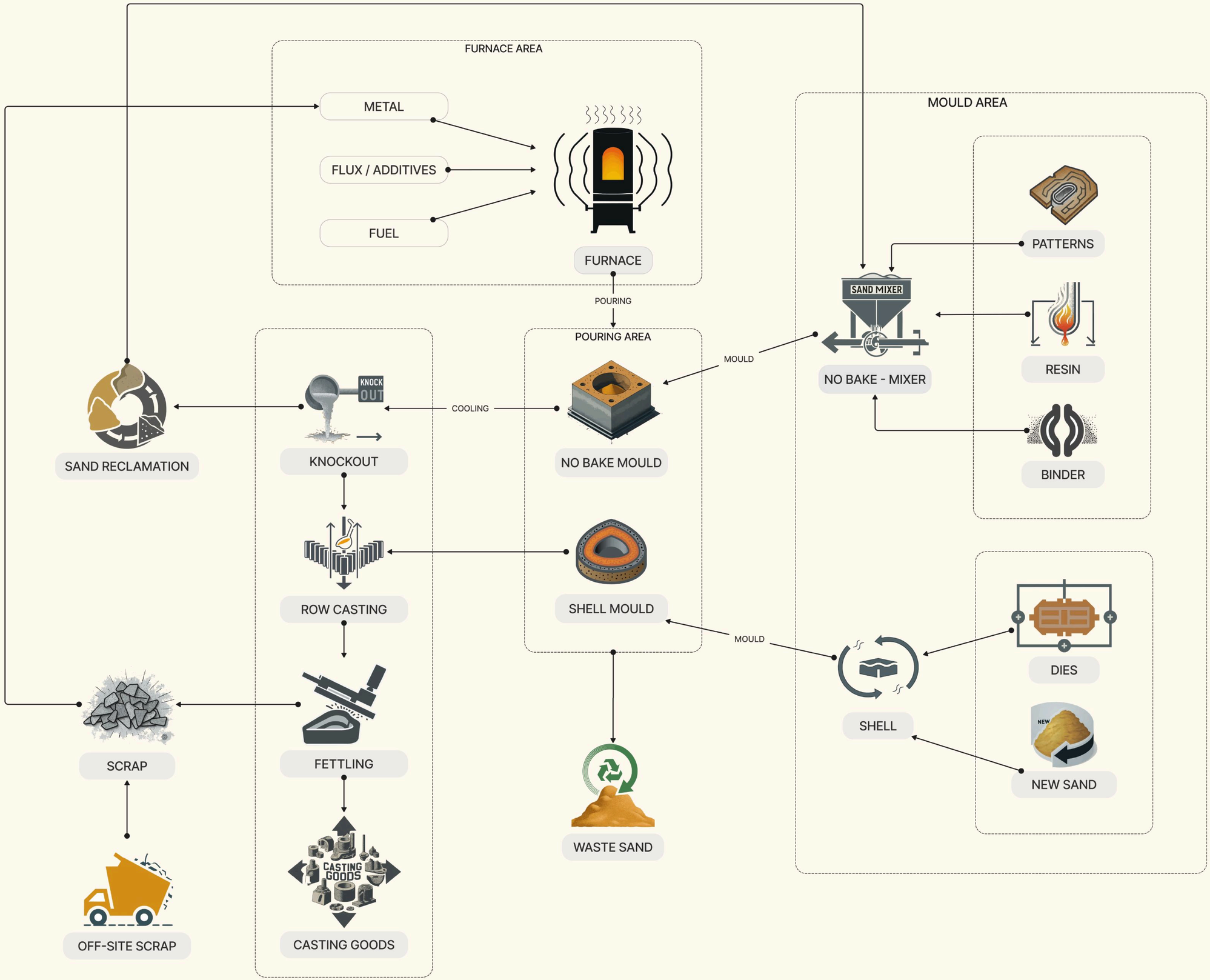
Megh Engineering Works - Machine Shop as Well As Pattern Shop Division

JD Pattern - Supporting Unit of RP Pattern in Foam Casting Patterns

OUR STRENGTH

- In-house die making and final machining facilities
- We are using Casting simulation software for getting defect free castings
- We also provide technical support to our customers to develop cost saving and more efficient products

THE CASTING PRODUCTION PROCESS



MANUFACTURING

At R.P. Pattern, we understand the importance of selecting the right casting process for your project. We specialize in two versatile methods: Shell/Croning Moulding and NO-Bake Two Part Phenolic Resin Bonded Moulding. Here's how these processes can benefit your needs:

SHELL/CRONING MOULDING

- **Ideal for intricate designs:** Produces high-quality castings with exceptional detail, perfect for complex components.
- **Cost-effective alternative:** Offers a reliable and affordable option for detailed parts compared to investment casting.
- **Precision focus:** Delivers castings meeting CT 7/8 tolerances, ensuring dimensional accuracy.

NO-BAKE TWO PART PHENOLIC RESIN BONDED MOULDING

- **Large-scale flexibility:** Handles projects of various sizes, even massive castings reaching hundreds of tonnes.
- **Prototype-friendly:** Well-suited for one-off, low-volume production runs and prototyping.
- **Adaptable tolerances:** Achieves castings within CT 10/11/12 tolerance ranges, accommodating various project requirements.

ONE-STOP FINISHING

STREAMLINE YOUR PRODUCTION

- **Machining:** Grinding, drilling, tapping, and machining for precise dimensional accuracy.
- **Surface Treatments:** Shot blasting, chemical cleaning, and heat treatment options.
- **Marking & Identification:** Etching and date stamping for seamless traceability.
- **Coating & Plating**: Painting, coating, enameling, galvanizing, and various plating options available.
- **Assembly & Packaging:** We can assemble finished parts and prepare them for shipment.

BENEFITS OF IN-HOUSE FINISHING

- **Reduced Costs:** Minimize transport expenses, material waste, and processing timelines.
- **Improved Efficiency:** Streamline production by eliminating the need for external finishing vendors.
- **Enhanced Quality Control:** Maintain consistent quality throughout the entire casting process.

The choice of manufacturing process should be determined by casting size, complexity, surface finish, cost and tolerance.

Casting tolerance or CT grades are detailed in the table below:

CASTING TOLERANCE MM																	
CASTING SIZE MM (UP TO AND INCL)					INVESTMENT / LOST WAX MOULDING		SHELL / CRONING MOULDING		GREENSAND / DISAMATIC MOULDING		TWO PART PHENOLIC RESIN BONDED MOULDING						
	CT1	CT2	CT3	CT4	CT5	CT6	CT7	CT8	CT9	CT10	CT10	CT11	CT12	CT13	CT14	CT15	CT16
10	0.09	0.13	0.18	0.26	0.36	0.52	0.74	1	1	2	2	2.8	4.2				
10 - 16	0.10	0.14	0.20	0.28	0.38	0.54	0.78	1.1	1.1	1.6	2.2	3	4.4				
16 - 25	0.11	0.15	0.22	0.3	0.42	0.58	0.82	1.2	1.2	1.7	2.4	3.2	4.6	6	8	10	12
25 - 40	0.12	0.17	0.24	0.32	0.46	0.64	0.9	1.3	1.3	1.8	2.6	3.6	5	7	9	11	14
40 - 63	0.13	0.18	0.26	0.36	0.50	0.70	1	1.4	1.4	2	2.8	4	5.6	8	10	12	16
63 - 100	0.14	0.20	0.28	0.40	0.56	0.78	1.1	1.6	1.6	2.2	3.2	4.4	6	9	11	14	18
100 - 160	0.15	0.22	0.30	0.44	0.62	0.88	1.2	1.8	1.8	2.5	3.6	5	7	10	12	16	20
160 - 250		0.24	0.34	0.50	0.70	1	1.4	2	2	2.8	4	5.6	8	11	14	18	22
250 - 400			0.40	0.56	0.78	1.1	1.6	2.2	2.2	3.2	4.4	6.2	9	12	16	20	25
400 - 630				0.64	0.90	1.2	1.8	2.6	2.6	3.6	5	7	10	14	18	22	28
630 - 1000					1	1.4	2	2.8	2.8	4	6	8	11	16	20	25	32
1000 - 1600						1.6	2.2	3.2	3.2	4.6	7	9	13	18	23	29	37
1600 - 2500							2.6	3.8	3.8	5.4	8	10	15	21	26	33	42
2500 - 4000								4	4	6.2	9	12	17	24	30	38	49
4000 - 6300										7	10	14	20	28	35	44	56
6300 - 10000											11	16	23	32	40	50	64

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Since 1996

CONTACT

info@rppattern.com
+91 9409013769

ADDRESS

R.P. Pattern
Plot no. 67, Kishan Ind. Zone,
Opp. Pentagone Forge Ltd.,
Bharudi-360311, Rajkot (Guj.) - India.

www.rppattern.com